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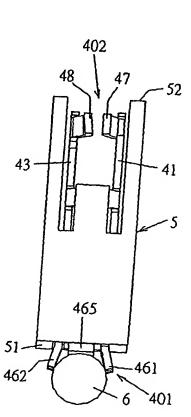
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- with international search report
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[Continued on next page]

(54) Title: CONDUCTIVE TERMINAL AND THE ELECTRICAL CONNECTOR USING THE CONDUCTIVE TERMINAL



(57) Abstract: A conductive terminal and the electrical connector using the conductive terminal, the conductive terminal is received in a terminal channel defined in an insulative housing of the electrical connector which can transmit signal between an electronic component and a circuit board, The conductive terminal has a first wall, a second wall connecting with the first wall in a certain angle and a third wall connecting with the second wall in a certain angle and opposite to the first wall. The conductive terminal forms a contact portion electrically connecting with the electronic component and a mounting portion electrically connecting with the circuit board via the solder ball. The mounting portion defines a pyramidal space extending out of the insulative housing for receiving the solder ball. When the solder ball melts, the solder ball and the pyramidal space have easily orientation and steadily connecting effect.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01R4/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched (classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{H01R} & \mbox{H05K} \end{array}$

Documentation searched other than minimum documentation to the extent that such documents are included. In the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUME	ENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Υ	US 5 997 317 A (PEI WEN-CHUN ET AL) 7 December 1999 (1999-12-07) the whole document	1-15
Y	US 5 861 663 A (SWAIN MILES FRANK ET AL) 19 January 1999 (1999-01-19) abstract; figure 3	1–15
Α	US 6 217 348 B1 (LIN NICK ET AL) 17 April 2001 (2001-04-17) abstract; figure 4	1-15
A	GB 2 325 354 A (WHITAKER CORP) 18 November 1998 (1998-11-18) abstract; figures 3-5	1-15

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Name and mailing address of the ISA European Palent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Corrales D



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Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 5997317	Α	07-12-1999	TW	392975	Y	01-06-2000
US 5861663	Α	19-01-1999	US	6127204	Α	03-10-2000
US 6217348	B1	17-04-2001	NONE			
GB 2325354	Α	18-11-1998	IE JP TW	980209 10275662 389429	· · -	07-10-1998 13-10-1998 01-05-2000